AMENDMENTS TO THE CLAIMS

1. (Previously presented) A digital camera comprising:

a diaphragm, which controls an amount of incident light by varying a stop-amount;

a solid-state imaging element, which receives the incident light passed through the diaphragm, said solid-state imaging element having a plurality of pixels, each of the pixels being divided into a main pixel, which has a first area for obtaining a high-sensitivity image signal, and a sub-pixel, which has a second area which is smaller than the first area, for obtaining a low-sensitivity image signal;

a controller, which individually controls a gain amount of the high-sensitivity image signal including plural color components and a gain amount of the low-sensitivity image signal including the plural color components in response to the stop-amount of the diaphragm; and a synthesizing processor, which synthesizes the controlled high-sensitivity image signal and the controlled low-sensitivity image signal.

2. (Previously presented) A digital camera comprising:

a diaphragm, which controls an amount of incident light by varying a stop-amount;

a solid-state imaging element, which receives the incident light passed through the diaphragm, said solid-state imaging element having a plurality of pixels, each of the pixels being divided into a main pixel, which has a first area for obtaining a high-sensitivity image signal, and a sub-pixel, which has a second area which is smaller than the first area, for obtaining a low-sensitivity image signal;

a controller, which individually controls a gain amount of the high-sensitivity image signal and a gain amount of the low-sensitivity image signal in response to the stop-amount of the diaphragm; and a synthesizing processor, which synthesizes the controlled high-sensitivity image signal and the controlled low-sensitivity image signal,

wherein the controller increases the gain amount of the high-sensitivity image signal and decreases the gain amount of the low-sensitivity image signal when the diaphragm is set to an open side, whereas the controller decreases the gain amount of the high-sensitivity image signal

and increases the gain amount of the low-sensitivity image signal when the diaphragm is set to a small-stop side.

3. (Previously presented) A digital camera comprising:

a diaphragm, which controls an amount of incident light by varying a stop-amount;

a solid-state imaging element, which receives the incident light passed through the diaphragm, said solid-state imaging element having a plurality of pixels, each of the pixels being divided into a main pixel, which has a first area for obtaining a high-sensitivity image signal, and a sub-pixel, which has a second area which is smaller than the first area, for obtaining a low-sensitivity image signal;

a controller, which individually controls a gain amount of the high-sensitivity image signal and a gain amount of the low-sensitivity image signal in response to the stop-amount of the diaphragm; and a synthesizing processor, which synthesizes the controlled high-sensitivity image signal and the controlled low-sensitivity image signal,

wherein when the controller increases the gain amount of the low-sensitivity image signal, the controller decreases a synthesizing ratio of the low-sensitivity image signal synthesized with the high-sensitivity image signal.

4. (Previously Presented) The digital camera according to claim 1, wherein the plurality of pixels are arranged in an array shape.

5. (Previously Presented) The digital camera according to claim 1, wherein each of the pixels is divided into the main pixel and the sub-pixel by an element separating band deviated from a center of the pixel.

6. (Previously Presented) A digital camera comprising:

a diaphragm, which controls an amount of incident light by a stop-amount;

a solid-state imaging element, which receives the incident light passed through the diaphragm, said solid-state imaging element having a plurality of pixels, each of the pixels being divided into

a main pixel, which has a first area for obtaining a high-sensitivity image signal, and

a sub-pixel, which has a second area, which is smaller than the first area, for obtaining a low-sensitivity image signal;

a controller, which operates in such a manner the smaller a stop amount of the diaphragm becomes, the smaller a synthesizing ratio of the low-sensitive image signal with respect to the high-sensitive image signal is decreased; and

a synthesizing processor, which synthesizes the high-sensitivity image signal with the low-sensitivity image signal.

7. (Previously Presented) The digital camera according to claim 6, wherein the plurality of pixels are arranged in an array shape.

8. (Original) The digital camera according to claim 6, each of the pixels is divided into the main pixel and the sub-pixel by an element separating band deviated from a center of the pixel.

9. (Previously presented) A method for controlling a digital camera, said method comprising:

varying a stop-amount of a diaphragm to control an amount of incident light;

receiving incident light passed through the diaphragm on a solid-state imaging element, said solid-state imaging element having a plurality of pixels, each of the pixels being divided into a main pixel, which has a first area for obtaining a high-sensitivity image signal, and a sub-pixel, which has a second area which is smaller than the first area, for obtaining a low-sensitivity image signal;

individually controlling a gain amount of the high-sensitivity image signal including plural color components and a gain amount of the low-sensitivity image signal including the plural color components in response to the stop-amount of the diaphragm; and

synthesizing the controlled high-sensitivity image signal and the controlled low-sensitivity image signal.

10. (Previously presented) A method for controlling a digital camera, said method comprising:

varying a stop-amount of a diaphragm to control an amount of incident light;

receiving incident light passed through the diaphragm on a solid-state imaging element, said solid-state imaging element having a plurality of pixels, each of the pixels being divided into a main pixel, which has a first area for obtaining a high-sensitivity image signal, and a sub-pixel, which has a second area which is smaller than the first area, for obtaining a low-sensitivity image signal;

individually controlling a gain amount of the high-sensitivity image signal and a gain amount of the low-sensitivity image signal in response to the stop-amount of the diaphragm; and

synthesizing the controlled high-sensitivity image signal and the controlled low-sensitivity image signal,

wherein said controlling step increases the gain amount of the high-sensitivity image signal and decreases the gain amount of the low-sensitivity image signal when the diaphragm is set to an open side, and said controlling step decreases the gain amount of the high-sensitivity image signal and increases the gain amount of the low-sensitivity image signal when the diaphragm is set to a small-stop side.

11. (Previously presented) A method for controlling a digital camera, said method comprising:

varying a stop-amount of a diaphragm to control an amount of incident light;

receiving incident light passed through the diaphragm on a solid-state imaging element, said solid-state imaging element having a plurality of pixels, each of the pixels being divided into a main pixel, which has a first area for obtaining a high-sensitivity image signal, and a sub-pixel, which has a second area which is smaller than the first area, for obtaining a low-sensitivity image signal;

individually controlling a gain amount of the high-sensitivity image signal and a gain amount of the low-sensitivity image signal in response to the stop-amount of the diaphragm; and

synthesizing the controlled high-sensitivity image signal and the controlled low-sensitivity image signal,

wherein when said controlling step increases the gain amount of the low-sensitivity image signal, the controlling step decreases a synthesizing ratio of the low-sensitivity image signal synthesized with the high-sensitivity image signal.

12. (Previously Presented) The method according to claim 9, wherein the plurality of pixels are arranged in an array shape.

13. (Previously Presented) The method according to claim 9, wherein each of the pixels is divided into the main pixel and the sub-pixel by an element separating band deviated from a center of the pixel.

14. (Previously Presented) A method of controlling a digital camera, said method comprising:

setting a stop-amount of a diaphragm to control an amount of incident light;

receiving the incident light passed through the diaphragm on a solid-state imaging element, said solid-state imaging element having a plurality of pixels, each of the pixels being divided into

a main pixel, which has a first area for obtaining a high-sensitivity image signal, and

a sub-pixel, which has a second area, which is smaller than the first area, for obtaining a low-sensitivity image signal;

controlling a synthesizing ratio of the low-sensitivity signal with respect to the high-sensitivity image signal, such that the smaller a stop amount of the diaphragm becomes, the smaller a synthesizing ratio of the low-sensitivity image signal with respect to the high-sensitivity image signal is decreased; and

synthesizing the high-sensitivity image signal with the low-sensitivity image signal.

15. (Previously Presented) The method according to claim 14, wherein the plurality of pixels are arranged in an array shape.

16. (Previously Presented) The method according to claim 14, wherein each of the pixels is divided into the main pixel and the sub-pixel by an element separating band deviated from a center of the pixel.

17. (Previously presented) The digital camera according to claim 1, wherein the plural color components include a red component, a green component and a blue component.

18. (Previously presented) The digital camera according to claim 1, wherein the incident light is filtered by an infrared cutting filter so that the filtered incident light includes only visible light.

19. (Currently Amended) A digital camera comprising:

a diaphragm, which controls an amount of incident light by varying a stop-amount;

a solid-state imaging element, which receives the incident light passed through the diaphragm, said solid-state imaging element having a plurality of pixels, each of the pixels being divided into a main pixel, which has a first area for obtaining a high-sensitivity image signal, and a sub-pixel, which has a second area which is smaller than the first area, for obtaining a low sensitivity image signal, the plurality of pixels ~~include~~ including (i) ~~the~~ main ~~pixel~~ pixels for a first color and (ii) ~~the sub-pixel~~ sub-pixels for the first color;

a controller, which individually controls a gain amount of the high-sensitivity image signal and a gain amount of the low-sensitivity image signal in response to the stop-amount of the diaphragm; and

a synthesizing processor, which synthesizes the controlled high-sensitivity image signal and the controlled low-sensitivity image signal.

20. (Currently Amended) The digital camera according to claim 19, wherein:

the ~~main~~ plurality of pixels include ~~the~~ main ~~pixel~~ pixels for the first color, ~~the~~ main ~~pixel~~ pixels for a second color and ~~the~~ main ~~pixel~~ pixels for a third color,

the ~~sub-pixels~~ plurality of pixels include ~~the sub-pixel~~ sub-pixels for the first color, ~~the sub-pixel~~ sub-pixels for the second color and ~~the sub-pixel~~ sub-pixels for the third color, and

the first, second and third colors are different from each other.

21. (Previously presented) The digital camera according to claim 19, wherein the incident light is filtered by an infrared cutting filter so that the filtered incident light includes only visible light.

22. (Previously presented) The method according to claim 9, wherein the plural color components include a red component, a green component and a blue component.

23. (Previously presented) The method according to claim 9, wherein the incident light is filtered by an infrared cutting filter so that the filtered incident light includes only visible light.

24. (Currently Amended) A method for controlling a digital camera, said method comprising:

varying a stop-amount of a diaphragm to control an amount of incident light;

receiving incident light passed through the diaphragm on a solid-state imaging element, said solid-state imaging element having a plurality of pixels, each of the pixels being divided into a main pixel, which has a first area for obtaining a high-sensitivity image signal, and a sub-pixel, which has a second area which is smaller than the first area, for obtaining a low-sensitivity image signal, the plurality of pixels include (i) ~~the~~ main ~~pixel~~ pixels for a first color and (ii) ~~the sub-pixel~~ sub-pixels for the first color;

individually controlling a gain amount of the high-sensitivity image signal and a gain amount of the low-sensitivity image signal in response to the stop-amount of the diaphragm; and

synthesizing the controlled high-sensitivity image signal and the controlled low-sensitivity image signal.

25. (Currently Amended) The method according to claim 24, wherein:

the ~~main~~ plurality of pixels include ~~the~~ main ~~pixel~~ pixels for the first color, ~~the~~ main ~~pixel~~ pixels for a second color and ~~the~~ main ~~pixel~~ pixels for a third color,

the ~~sub-pixels~~ plurality of pixels include ~~the sub-pixel~~ sub-pixels for the first color, ~~the sub-pixel~~ sub-pixels for the second color and ~~the sub-pixel~~ sub-pixels for the third color, and

the first , second and third colors are different from each other.

26. (Previously presented) The method according to claim 24, wherein the incident light is filtered by an infrared cutting filter so that the filtered incident light includes only visible light.